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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,548	10/26/2001	Siming Lin	5150-63900	8072

35690 7590 07/14/2005

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EXAMINER

LU, TOM Y

ART UNIT PAPER NUMBER

2621

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,548

Applicant(s)

LIN ET AL.

Examiner

Tom Y. Lu

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-46 and 50-66 is/are allowed.
- 6) ☒ Claim(s) 47-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The written response filed 5/23/2005 has been entered and considered.
2. Claims 1-66 are pending.

Response to Arguments

3. Applicant's arguments, see Remarks, pages 2-4, filed on 5/23/2005, with respect to the rejection(s) of claim(s) claims 1, 45-48, 50-51 and 65-66 under 35 USC 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Krumm et al (U.S. Patent No. 6,477,272 B1).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 47-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Krumm et al (U.S. Patent No. 6,477,272 B1).

- a. Referring to Claim 47, Krumm discloses a computer-implemented method for locating regions of a target image that match a template image with respect to color and pattern information (Krumm's system discloses correlating an original search window with search windows in a search image area based on color CH

values to determine the exact location of the object in the search image), the method comprising: performing at least one of color matching and pattern matching of the target image using a hill-climbing technique to determine one or more candidate regions, wherein the one or more candidate regions match the template image with respect to at least one of color information and pattern information (column 14, lines 25-30, hill-climbing search is performed with respect to color information of CHs, column 14, lines 45-46, and the search windows in the search image are the claimed candidate regions, and the original search window is the claimed template image); and providing output indicating the one or more candidate regions in the target image (column 15, lines 8-11, a search window with maximum similarity value is outputted as containing the object).

- b. Referring to Claim 48, Krumm discloses wherein said performing at least one of color matching and pattern matching comprises performing at least one of color matching and luminance pattern matching (Krumm discloses performing color matching, column 11, lines 14-20 and column 14, lines 45-46).
- c. Referring to Claim 49, Krumm discloses calculating a hue pattern match score for at least a subset of the one or more candidate regions, wherein said hue pattern match score is usable to determine one or more final match regions in the target image (column 15, lines 8-11, the similarity value is based on the matching of the color CH between the original window and the search window to determine the

location of the object, the maximum similarity indicates the most probable location that contains the object).

Allowable Subject Matter

5. Claims 1-46 and 50-66 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

- a. Independent claim 1 defines features of at least one of said color matching search and said luminance pattern matching search are performed using a hill-climbing technique; and the one or more luminance pattern match candidate regions are useable in determining regions of the target image that match the template image with respect to color information. These features in combination with other features in claim 1, which is the broadest allowable claim, are not taught or suggested by the art of record.
- b. Claims 2-44 are dependent upon claim 1.
- c. Claim 45 defines features of performing a color matching search through the target image using hill-climbing technique in order to find one or more color match candidate regions, wherein the one or more color match candidate regions match the template image with respect to color information. These features in combination with other features in claim 45 are not taught or suggested by the art of record.
- d. Claim 46 defines features of performing a luminance pattern matching search in the one or more color match candidate regions using a hill-climbing technique in order to find one or more luminance pattern match candidate regions in the target

image, wherein the one or more luminance pattern match candidate regions match the template image with respect to pattern information. These features in combination with other features in claim 46 are not taught or suggested by the art of record.

- e. Claim 50 defines features of performing a luminance pattern matching search in at least a subset of the one or more first candidate regions in order to find one or more second candidate regions in the target image; determining one or more final match regions in the target image from said one or more second candidate regions; and providing output indicating the one or more final match regions in the target image, wherein the one or more final match regions match the template image with respect to color and pattern information; wherein at least one of said color matching search and said luminance pattern matching search are performed using a hill-climbing technique. These features in claim 50 are not taught or suggested by the art of record.
- f. Claim 51 contains allowable features as indicated in claim 1.
- g. Claim 52 contains allowable features as indicated in claim 1.
- h. Claims 53-64 are dependent upon claim 52.
- i. Claim 65 contains allowable features as indicated in claim 45.
- j. Claim 66 contains allowable features as indicated in claim 46.

Conclusion

- 6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2621

a. Lin et al, U.S. Patent No. 6,757,428 B1, see whole document.

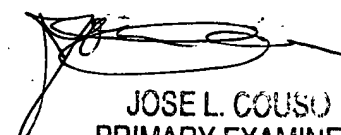
b. Bedrosian et al, U.S. Patent No. 5,495,537, see column 4, lines 8-9, 30-31 and 44.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y. Lu whose telephone number is (571) 272-7393. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)-272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Y. Lu


JOSE L. COUSO
PRIMARY EXAMINER